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PATENT APPLICATION OF

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FOR UTILITY APRON

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TITLE: UTILITY APRON



BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to utility aprons useful for retaining various items such as cleaning items and, more specifically, to utility aprons which are adapted for use with support devices, examples of which might include buckets, cans, frames and the like.

Description of the Related Art

There are many instances in which it is useful to have items such as cleaning items retained in a single location for ease of access, storage and transportation. One approach to such item retention, used in the past for retention of tools, involves using an apron disposed in, on or around a container such as a bucket. Such item retention aprons typically have included one or more recesses or pockets into which the items may be disposed.

Such apron designs typically have been limited, for example, in that they are not of suitable size and shape for appropriate retention of a wide range of items. They also have not generally been of suitable size and shape for retaining cleaning items, such as items used in the cleaning of residences and other buildings, and in other cleaning applications. Moreover, the designs typically are not particularly well suited to securely

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retaining items of varying sizes within the pockets and easily releasing them from the recesses or pockets.

### Objects of the Invention

Accordingly, an object of the present invention is to provide a utility apron for support devices, which apron is useful for retaining items of various sizes and shapes.

Another object of the invention is to provide a utility apron for support devices, which apron is useful for retaining cleaning items, such as cleaning products and cleaning tools.

Still another object of the invention is to provide a utility apron for support devices, which apron can firmly secure the items to be retained.

Additional objects and advantages of the invention will be set forth in the description which follows, and in part will be apparent from the description, or may be learned by practice of the invention. The objects and advantages of the invention may be realized and obtained by means of the instrumentalities and combinations pointed out in this document and its attachments.

### SUMMARY OF THE INVENTION

The invention comprises a utility apron for support devices, and a related method. Support devices suitable for use with the invention would include, without limitation, buckets, cans, frames, and the like. Preferably they would be substantially

cylindrical, but again, this is not necessarily limiting.

According to one aspect of the invention, a utility apron is provided for use on a support device having an interior, an exterior, an opening, a lip at the opening, and a longitudinal axis. This utility apron comprises a shell having lip portion for contacting the lip of the support device and an exterior surface for disposition at the exterior of the support device; and a pocket disposed upon the exterior surface of the shell away from the longitudinal axis. The pocket includes a resilient opening. The size of the opening is variable depending upon the extent to which the resilient opening is extended.

According to another aspect of the invention, a utility apron is provided for use on a support device as described above, wherein the utility apron comprises a shell having lip portion for contacting the lip of the support device and an interior surface for disposition at the interior of the support device; and a pocket disposed upon the interior surface of the shell toward the longitudinal axis. The pocket includes a resilient opening, the size of which is variable depending upon the extent to which the resilient opening is extended.

These and other aspects of the invention may be combined, for example, so that the utility apron includes pockets having resilient openings both on interior and exterior shell surfaces.

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The resilient pockets may comprise a number of different designs. They may include, for example, an elastic or elastomeric material which allows the size of the opening to be enlarged under force, but which returns to its normal size when the force is removed. The force typically would be applied by a person gripping a portion of the opening with a finger or fingers and pulling the opening to enlarge it. When an item is placed into the pocket or pockets and the opening is released, the pocket returns to its normal position to grip and better retain the item within the pocket. The pockets may and preferably do comprise a pliable material, such as a fabric or a woven material. Various grades and weights of nylon are preferred for some applications. The resilient opening may comprise a strip of resilient material affixed to the pliable material.

The items which may be inserted into the pocket or pockets may include, without limitation, cleaning items, such as bottles containing liquid, cans, sponges, cleaning cloths, feather dusters, etc. A typical yet merely illustrative example of liquid-containing bottles would be from 16 oz. to 28 oz. size bottles commonly sold as water bottles with snap top lids. This would correspond in some instances to the pocket opening being sized so that the pocket or pockets would have openings when partially but not entirely extended, e.g., when containing and

securing the item, of about 7.5 to about 9 inches in circumference or around the perimeter of the opening.

For these and other reasons, the resilient opening may be between about 4 and 7 inches wide in a normal unstretched position, and preferably about 4.75 inches wide in a normal unstretched position. One or more of the pockets may be sized to contain an item having a circumference perpendicular to the longitudinal axis of about 7.5 inches when the item is placed in the pocket, one or more of the pockets may be sized to contain an item having a circumference in these circumstances of about 8 inches, one or more may be sized to contain an item having a circumference of about 8.5 inches in this way, and one or more may be sized to contain an item having a circumference of about 9 inches measured in this way.

The method according to the invention comprises incorporating into a pocket of an apron an opening which is resilient. In accordance with the method, aspects of the apron as described above, most notably the resilient pocket or pockets, above may be incorporated into an apron.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawing, which is incorporated in and constitutes a part of this document, illustrates a presently preferred embodiment and method of the invention and, together

with the general description given above and the detailed description of the preferred embodiment and method given below, serve to explain the principles of the invention.

Fig. 1 shows a perspective side view of a utility apron according to a presently preferred embodiment of the invention;

Fig. 2 shows an elevated perspective view of the utility apron shown in Fig. 1.

Fig. 3 shows the utility apron of Figs. 1 and 2 opened up to illustrate its component parts, including the pockets having resilient openings; and

Fig. 4 shows the components of a pattern from which fabric or like material may be cut and sewn or fastened to create the apron of Figs. 1 and 2.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT AND METHOD

Reference will now be made in detail to the presently preferred embodiment and method of the invention as illustrated in the accompanying drawings, in which like reference characters designate like or corresponding parts throughout the drawings.

In accordance with the invention, a utility apron is provided for use on a support device having an interior, an exterior, an opening, a lip at the opening, and a longitudinal axis. The support device may comprise a bucket, can, frame, or the like. For reference purposes, the longitudinal axis may be

assumed to have a longitudinal axis which extends through the opening, e.g., substantially perpendicularly to the opening.

A utility apron 10 according to the presently preferred embodiment of the invention is shown in Figs 1 and 2. Apron 10 is suitable for use with support devices such as buckets, cans, frames, and the like. The support device shown in Figs. 1 and 2 is a cylindrical bucket 12. Bucket 12 may have any one of a number of sizes and shapes. It may have a capacity, for example, of 3, 3.5 or 5 gallons. Bucket 12 includes an opening 12a, a base 12b, a lip 12c around the periphery of opening 12a, an interior 12d, and an exterior 12e. A longitudinal axis 12f, which is an imaginary line or construction for reference purposes and not a physical elements, may be assumed to pass through the central interior of bucket 12, through the center of opening 12a and base 12b, i.e., along the longitudinal axis of the cylinder which comprises bucket 12. Bucket 12, used in Figs. 1 and 2 to illustrate the preferred embodiment, is a 5 gallon bucket having opening 12a of about 11.5 inches in diameter and a depth from lip 12c to base 12b of about 14.5 inches.

In accordance with one aspect of the invention, the utility apron comprises a shell having a lip portion for contacting the lip of the support device and an exterior surface for disposition at the exterior of the support device. In accordance with





includes a plurality of such second pockets. Each of the pockets includes a resilient opening. The size of each opening is variable depending upon the extent to which the resilient opening is extended.

Referring again to the preferred embodiment of Fig. 1, apron 10 includes a plurality of pockets 14, for retaining items 16. Items to be retained may include, for example, cleaning items, such as liquid-containing bottles, cans, sponges, cleaning cloths, feather dusters, etc. Pockets 14 have differing sizes and shapes, which may differ depending upon the application and items to be retained. Some of the pockets in apron 10, for example, are specifically sized to conveniently retain 16 oz. bottles, 20 oz. bottles, 24 oz. bottles, 28 oz. bottles, and various sizes in between. A given pocket preferably would be adapted to contain only one or two of these sizes, although this is not necessarily a requirement. On a given apron, preferably there would be a number of pockets, and the pockets of a given apron preferably would not all have the same size. Incidentally, it should be noted that a given apron may include pockets of other designs, such as known pockets having non-resilient openings, in addition to those having the resilient openings.

As best illustrated in Fig. 2, shell 13 of apron 10 may extend primarily inside the support device (interior shell

surface 13a), primarily outside the support device (exterior shell surface 13b), and preferably both inside and outside the support device (both surfaces 13a and 13b). In the presently preferred embodiment, apron 10 extends both inside and outside bucket 12, and therefore includes interior shell surface 13a and exterior shell surface 13b. Pockets 14 correspondingly are disposed both inside and outside bucket 12 on these respective shell surfaces.

Each of pockets 14 includes an opening 18 through which items 16 may be inserted or removed. Openings 18 are resilient. They may comprise, for example, a resilient or elastic material which allows the size of the opening to be enlarged under force, but which returns to its normal size when the force is removed. Examples of such resilient material may comprise rubber, elastic, and the like. Although pockets 14 preferably comprise a pleated pliable material such as a fabric, the resilient opening may comprise a strip of resilient material affixed to the pliable material at the opening. Elastic bands or stripping, for example, as may be obtained commercially from a fabric store, would suffice for some applications. The force to open resilient openings 18 typically would be applied by a person gripping the resilient portion of opening 18 with a finger or fingers and pulling opening 18 to enlarge it. When an item 16 is placed into

one of the pockets 14 and opening 18 is released, the pocket returns to its normal position to grip and better retain that item 16 within the pocket. The resilient material should be sufficiently strong to securely grip the items to be retained so they do not fall out of the pocket or unduly move within the pocket under normal or anticipated usage.

Pocket openings 18 preferably but optionally may be between about 4 and 7 inches wide (i.e., along lip 12e of bucket 12) in a normal unstretched position, and more preferably about 4.75 inches wide in this normal unstretched position. Pockets 14 and their openings 18 may be sized to contain an item having a circumference perpendicular to longitudinal axis 12f of about 7.5 inches, 8 inches, 8.5 inches, and 9 inches, respectively, when the items is placed in the pocket. This corresponds, for example, to such items commonly used in cleaning applications such as liquid bottles having volumes of 16 oz., 20 oz., 24 oz. and 28 oz. The height of the pockets (i.e., in the general direction of longitudinal axis 12f) will vary depending upon the application, but preferably is sufficient to securely retain the intended item to be retained, such as a bottle, container, etc., while allowing a portion of the retained item to be viewable for easy identification and retrieval. Sample heights would be between about 4 and 7 inches, depending on the items intended to

be stored for a given design.

The component parts of apron 10 may comprise a common material throughout, perhaps with the exception of the resilient material, or it may include various types of materials. Preferred materials for shell 13 and pockets 14 other than the resilient portion may comprise a pliable material such as a fabric or woven material, for example, such as a nylon material.

The method according to the invention comprises incorporating into a pocket of an apron an opening which is resilient. The presently preferred method involves providing an apron such as that described above, which includes pockets having resilient openings. For purposes of illustration and not by way of limitation, the preferred method will be described as it relates to the fabrication of apron 10 according to the preferred embodiment.

Fig. 3 shows utility apron 10 in an opened form, with the ends unstitched, for purposes of illustration. Apron 10 as shown in Fig. 3 would be prepared for use by folding shell 13 along lip portion 13c so that interior surface 13a and exterior surface 13b would rotate into the page toward one another until they met. Stitching or a similar fastening technique then would be used to tack shell corners 13d and 13e to shell corners 13f and 13g, respectively. This would result in apron 10 taking the generally

cylindrical shape shown in Figs. 1 and 2.

Apron 10 may be fabricated in a number of ways. A presently preferred method for fabricating apron 10, however, involves using the fabric patterns of Fig. 4, assembled and stitched or fastened as shown in Fig. 4. With reference to Fig. 4, shell 13 includes shell base A, a left exterior pocket strip B, a right exterior pocket strip C, a left exterior row pocket strip D, and an interior pocket strip E. Shell 13 and the basic pocket strips B-E are made of a nylon fabric. Shell base A and pocket strips B-E are cut from a sheet of nylon in the shapes shown in Fig. 4. Pocket strips B-E are cut larger than the width of the corresponding portion of shell base A (perpendicular to longitudinal axis 12f and along the plane of the drawing sheet) so they will match the dimensions of the appropriate portions of shell base A after the pocket strips have been folded or pleated, as explained below.

Pocket strips B-E are then placed on shell base A in the appropriate places and stay-stitched (1/8 inch). Approximately 6 yards of edging (wide bias - 1 inch) tape is then pressed in half for easier handling and more accurate results. Alternatively, extra wide/double fold bias tape could be used. The "pressed in half" edging (or extra wide/double fold bias) tape is then sewn to the edges of B, C, D, and E. The assembly then should be

pressed with an iron or similar device to flatten, conform and retain the pieces.

Each of pockets 14 is pleated to accommodate size variations in the pocket, from when it is empty to when it contains an item. The pleats may be incorporated into the pockets as follows. On D, the pocket material is folded to create the pleats. The pleats are positioned and pinned. The bottoms of the pockets are sewn to the appropriate border portion of shell base 13h while holding the pleats together. The assembly again should be pressed at this stage.

D is then positioned and sewn to B. The stitching is then reinforced at the top (two places) and at the bottom (one place) of the pockets. On B, the pleats are positioned and pinned in place. The bottom is sewn to hold the pleats in place. The assembly once again should be pressed.

On C, position and pin the pleats in place. The assembly should be pressed. The bottom then is sewn to hold the pleats in place, and the assembly is pressed.

B then should be positioned and pinned to A, and the assembly pressed. The outside edges of B are sewn to A, and the assembly again is pressed. The individual pocket sides should then be sewn on the stitching line. The stitching then should be reinforced at top and bottom of each pocket side, and the

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# BOOK REVIEW



Corners 13d and 13e then would be sewn to corners 13f and 13g, respectively, to give apron 10 its substantially cylindrical shape.

Additional advantages and modifications will readily occur to those skilled in the art. For example, the shape, size, materials, and other aspects of apron 10 may be different than the specific examples shown here. Therefore, the invention in its broader aspects is not limited to the specific details, representative devices, and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of the general inventive concept.